

## REMARKS

Claims 1-22 are currently pending in the Application. Claims 1-22 stand rejected. Applicants respectfully traverse the rejections as follows.

### **35 U.S.C. § 103(a) Rejections**

Claims 1-22 stand rejected as being obvious in light of numerous reference combinations. In order to maintain a *prima facie* obviousness rejection under 35 U.S.C. § 103(a), three basic criteria must be met:

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

*See*, M.P.E.P. §2142, *citing In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

The cited references fail to teach or suggest all of the recitations of Claims 1-22 of the present Application. This failure precludes a *prima facie* obviousness rejection of the claims.

### **Rejection of Claims 1-7, 9, and 12-19 in light of Campbell and Manske**

Claims 1-7, 9, and 12-19 stand rejected under 35 U.S.C. § 103(a) as being obvious in light of the combination of Campbell (U.S. Patent No. 2,102,678) and Manske (U.S. Patent No. 5,215,378). Applicants respectfully traverse this rejection. Applicants note that the Action indicates that the Manske reference is U.S. Patent No. 5,213,378, however, this is believed to be a typographical error as the Manske reference previously cited was U.S. Patent No. 5,215,378 and U.S. Patent No. 5,213,378 does not include Manske as an inventor.

Claim 1 is an independent claim. Claims 2-7, 9, and 12-19 depend from Claim 1.

The rejection of independent Claim 1 relies upon the combination of Campbell with Manske. A *prima facie* obviousness rejection can only be supported by a combination of references if the combination is motivated and if the combination teaches or suggests all of the

recitations of the claims. *See, In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). The combination of Campbell with Manske does neither.

The Action admits that “Campbell does not disclose...a mercury free transfer liquid” as recited in Claim 1. Instead, the Action alleges that the separating substance 14 of Manske can be used with Campbell as a transfer liquid. More particularly, the Action alleges that “Campbell does not disclose a transfer liquid” and that the dyed aqueous transfer liquid of Manske (the separating substance 14) could be used with Campbell as a transfer liquid.

The Action alleges that “Campbell discloses in Fig. 1 a maximum/minimum thermometer comprising an expansion liquid 24 which expands/contracts along a tube in response to a temperature change” and that “Campbell does not disclose a transfer liquid.” *See, Action* at p. 2. Applicants contend that this is a mischaracterization of Campbell because the indicating thermometric liquid 24 of Campbell is not an expansion liquid and does not expand or contract in response to a temperature change. Rather, Campbell proposes that “any type of maximum and minimum thermometer may be employed” with Campbell’s invention, including those having “a heat expansion bulb 20 for the expansive thermometric liquid 22 which controls in the usual manner the height of the indicating thermometric liquid 24” within the thermometer. *See, Id.* at col. 2, lines 27-34 (emphasis added). Thus, the expansive thermometric liquid 22 of Campbell is similar to the expansion liquid recited in Claim 1 and the indicating thermometric liquid 24 of Campbell is similar to the transfer liquid recited in Claim 1. Campbell therefore discloses a traditional maximum/minimum thermometer as found in the year 1937. Applicants agree with the Action in that Campbell does not disclose a mercury free transfer liquid as recited in Claim 1.

The Action apparently proposes the substitution of the separation substance 14 of Manske for the indicating thermometric liquid 24 of Campbell or as a transfer liquid. The Action is not clear on this point, especially in light of the mischaracterization of the indicating thermometric liquid 24 of Campbell as an expansion liquid. The Action proposes a motivation for a combination, stating that:

it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a capable of being dyed aqueous transfer liquid, as taught by Manske, to the device disclosed by Campbell, so as to reinforce a visible indication of an extreme temperature, in order to allow the user to judge that there was a period when the

temperature was above or below the predetermined temperature, and thus to make the user to judge the quality of the object. *See, Action* at p. 3 (emphasis added).

These statements do not, however, provide a motivation to combine Campbell with Manske to make obvious Claim 1.

The maximum/minimum thermometer of Claim 1 is not concerned with indicating whether or not a predetermined extreme temperature was reached. Instead, the recited maximum/minimum thermometer provides an indication of the maximum temperature and the minimum temperature achieved over a period of time. This can be contrasted with the Manske device, which is a single use disposable temperature indicator that only shows that a single predetermined extreme temperature has been reached or exceeded during a time period. Manske is not capable of exhibiting both the high and low temperatures reached during a particular time period. Thus, the alleged motivation to combine Manske with Campbell to create a device to “judge that there was a period when the temperature was above or below the predetermined temperature” does not motivate the creation of a thermometer as recited in Claim 1.

Furthermore, Manske provides a single use device that only indicates whether or not a maximum or a minimum temperature was reached over a period of time. Manske cannot indicate both a maximum and minimum temperature and it does not disclose indexes which would allow the measurement of the high and low temperatures reached during a particular time period. Thus, a person of skill in the art would not be motivated to adapt a single-use, single temperature-indicating device to arrive at a thermometer as recited in Claim 1. The lack of motivation to combine Manske with Campbell to create a thermometer capable of displaying both a maximum and minimum temperature precludes a *prima facie* rejection. *See, In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

A combination of Manske and Campbell also fails to establish a *prima facie* obviousness rejection because there is no expectation that the combination of Manske and Campbell, as defined by the Examiner, will succeed.

The separating substance 14 of Manske moves in response to an expansion liquid proposed by Manske, but the separating substance 14 does not move an index. There is no indication in Manske, or in Campbell, that the separating substance 14 of Manske could be used

to move an index in place of the indicating thermometric liquid 24 of Campbell. Claim 1 specifically recites “two indexes (44, 51) capable of being moved through action of the transfer or expansion liquid.” There is no expectation that Manske’s separating substance 14 could be successfully substituted for the indicating thermometric liquid 24 of Campbell to move the indexes. The lack of an expectation of success from the combination precludes a *prima facie* obviousness rejection based upon the combination. *See, In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

A combination of Manske and Campbell also fails to teach or suggest all of the claim recitations of Claim 1. Claim 1 recites a maximum/minimum thermometer comprising a mercury free transfer liquid, which is not taught or suggested by either reference. This failure precludes a *prima facie* obviousness rejection of Claim 1. In particular, the Action admits that Campbell does not propose a mercury free transfer liquid. Further, Manske does not teach or suggest such a recitation. The failure of both references to teach or suggest such recitations precludes a *prima facie* obviousness rejection under 35 U.S.C. § 103(a) because the combination does not make up for the deficiency in the teachings. *See, In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

A *prima facie* obviousness rejection of independent Claim 1 is not supported by the combination of Manske and Campbell because there is no motivation to combine the two references, there is no expectation that a combination as suggested by the Examiner would result in a thermometer similar to that recited in Claim 1, and because the combination fails to teach or suggest all of the recitations of Claim 1. The failure of the combination to meet any of the requirements for a *prima facie* obviousness rejection precludes a rejection of Claim 1 under 35 U.S.C. § 103(a).

Claims 2-7, 9, and 12-19, which depend from Claim 1, are also nonobvious because they depend from a nonobvious independent claim. *See, In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988)(stating that if an independent claim is nonobvious under 35 U.S.C. § 103 then any claim depending therefrom is nonobvious); *see also*, M.P.E.P. § 2143.03.

**Rejection of Claims 8, 10-11, 20, and 21**

Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Campbell and Manske in further view of Bealing et al. (U.S. Patent No. 5,990,199).

Claims 10-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Campbell and Manske and in further view of Hickman (U.S. Patent No. 1,942,857).

Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Campbell and Manske and in further view of GB0001967/GB041882.

Claim 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Campbell and Manske and in further view of Bernard (U.S. Patent No. 4,908,503).

Each of Claims 8, 10-11, 20, and 21 depend from Claim 1, either directly or indirectly. As dependent claims of a nonobvious independent claim, Claims 8, 10-11, 20, and 21 are also nonobvious. *See, In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988)(stating that if an independent claim is nonobvious under 35 U.S.C. § 103 then any claim depending therefrom is nonobvious); *see also*, M.P.E.P. § 2143.03.

**Rejection of Claim 22**

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Campbell and Bernard.

Independent Claim 22 recites “A index for use in a maximum/minimum thermometer the index comprising a plastics material into which has been mixed and/or melted a quantity of a magnetic powder.” Campbell does not propose an index like that claimed. Although Campbell proposes the use of indexes in a thermometer, it admittedly fails to disclose the particular material used to make the indexes.

Bernard proposes a thermometer made of a plastic material. Bernard does not propose the use of an “index” with its thermometer as the term is used with respect to Claim 22 or with respect to Campbell. Therefore, the combination of Bernard and Campbell fail to teach or

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suggest all of the recitations of Claim 22, precluding a *prima facie* obviousness rejection. *See, In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

### CONCLUSION

The concerns of the Examiner addressed in full, Applicants respectfully request withdrawal of the outstanding rejections and the issuance of a Notice of Allowance forthwith. The Examiner is encouraged to direct any questions regarding the foregoing to the undersigned, who may be reached at (919) 854-1400.

Respectfully submitted,



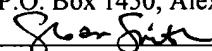
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